We Claim:

1. A needleless luer access connector, comprising:

a housing having a top portion defining an inlet opening, a channel defined by at least one sidewall extending from the inlet opening and having a cross section, and a bottom portion defining an outlet opening extending from the channel;

a barb formed along the sidewall of the channel and extending into the channel;

a septum disposed in the housing, the septum having a proximal portion, a medial portion having an external surface and a cross section less than a cross section of the top portion and less than the cross section of the channel and a distal portion;

a longitudinal slit extending through the septum from the proximal portion through the medial portion and into the distal portion; and

at least one rib formed on the external surface of the medial portion such that the rib engages the barb when a male luer taper is inserted into the slit.

2. The needleless luer access connector of claim 1 wherein the longitudinal slit is defined by a pair of transversely extending walls of the septum and the external surface of the medial portion includes at least one portion that is substantially aligned with at least one of the transversely extending walls of the septum and the at least one rib is located on the at least one portion.

3. The needleless luer access connector of claim 2 wherein the external surface of the medial portion includes two portions, each of which is substantially parallel to the pair of transversely extending walls of the septum.

4. The needleless luer access connector of claim 3 including two ribs wherein one rib is located on each of the two portions of the external surface of the medial portion.

5. The needleless luer access connector of claim 4 further including two barbs on the sidewall of the channel.

6. The needleless luer access connector of claim 5 wherein the two barbs are about 180 degrees apart.

7. The needlelss luer access connector of claim 6 wherein the two barbs are aligned with the two ribs when a male luer taper is inserted into the slit.

8. A needleless luer access connector, comprising:

a housing having a top portion defining an inlet opening, a channel defined by at least one sidewall extending from the inlet opening and having a cross section, and a bottom portion defining an outlet opening extending from the channel;

a groove formed in the sidewall of the channel and extending into the channel;

a septum disposed in the housing, the septum having a proximal portion, a medial portion having an external surface and a cross section less than a cross section of the top portion and less than the cross section of the channel and a distal portion;

a longitudinal slit extending through the septum from the proximal portion through medial portion and into the distal portion; and

at least one rib formed on the external surface of the medial portion such that the rib is disposed in the groove when a male luer taper is inserted into the slit.

9. The needleless luer access connector of claim 8 wherein the longitudinal slit is defined by a pair of transversely extending walls of the septum and the external surface of the medial portion includes at least one portion that is substantially aligned with at least one of the transversely extending walls of the septum and the at least one rib is located on the at least one portion.

10. The needleless luer access connector of claim 9 wherein the external surface of the medial portion includes two portions, each of which is substantially parallel to the pair of transversely extending walls of the septum.

11. The needleless luer access connector of claim 10 including two ribs wherein one rib is located on each of the two portions of the external surface of the medial portion.

12. The needleless luer access connector of claim 11 further including two grooves on the sidewall of the channel.

13. The needleless luer access connector of claim 12 wherein the two grooves are about 180 degrees apart.

14. The needlelss luer access connector of claim 13 wherein the two grooves are aligned with the two ribs when a male luer taper is inserted into the slit.

15. A needleless luer access connector, comprising:

a housing having a top portion defining an inlet opening, a channel defined by at least one sidewall extending from the inlet opening and having a cross section, and a bottom portion defining an outlet opening extending from the channel;

a rib formed along the sidewall of the channel and extending into the channel;

a septum disposed in the housing, the septum having a proximal portion, a medial portion having an external surface and a cross section less than a cross section of the top portion and less than the cross section of the channel and a distal portion; and

a longitudinal slit extending through the septum from the proximal portion through the medial portion and into the distal portion wherein the septum engages the rib when a male luer taper is inserted into the slit.

16. The needleless luer access connector of claim 15 wherein the longitudinal slit is defined by a pair of transversely extending walls of the septum and the external surface of the medial portion includes at least one portion that is substantially aligned with at least one of the transversely extending walls of the septum and the at least one rib is located adjacent to the at least one portion.

17. The needleless luer access connector of claim 16 wherein the external surface of the medial portion includes two portions, each of which is substantially parallel to the pair of transversely extending walls of the septum.

18. The needleless luer access connector of claim 17 including two ribs wherein one rib is located adjacent to one of the two portions of the external surface of the medial portion.

19. The needleless luer access connector of claim 18 wherein the two ribs are about 180 degrees apart and are aligned with the pair of transversely extending walls of the septum and the two portions of the external surface of the medial portion.

20. A needleless luer access connector, comprising:

a housing having a top portion defining an inlet opening, a channel defined by at least one sidewall extending from the inlet opening and having a cross section, and a bottom portion defining an outlet opening extending from the channel, wherein the channel defines a slot extending into the sidewall about at least a portion of a circumference of the channel;

a septum disposed in the housing, the septum having a proximal portion, a medial portion having an external surface and a cross section less than a cross section of the top portion and less than the cross section of the channel and a distal portion;

a longitudinal slit extending through the septum from the proximal portion through medial portion and into the distal portion; and

a key extending from the septum and into the slot.

21. The needleless luer access connector of claim 20 wherein the longitudinal slit is defined by a pair of transversely extending walls of the septum which are parallel to a transverse axis of the slit and wherein the slot is aligned with the transverse axis of the slit.

22. The needleless luer access connector of claim 21 including two slots about 180 degrees apart and aligned with the transverse axis of the slit.

23. The needleless luer access connector of claim 22 including two keys wherein one key is located in each of the two slots.

24. The needleless luer access connector of claim 20 the key and the slot have complementary cross sections.

25. The needleless luer access connector of claim 24 wherein the key extends from the proximal portion of the septum.

26. The needleless luer access connector of claim 25 wherein the key and slot have complementary rectangular cross sections.

27. The needleless luer access connector of claim 26 wherein the key and slot have complementary triangular cross sections.

28. The needleless luer access connector of claim 27 wherein the key and slot have complementary polygonal cross sections.

29. A needleless luer access connector, comprising:

a housing having a top portion defining an inlet opening, a channel defined by at least one sidewall extending from the inlet opening and having a cross section, and a bottom portion defining an outlet opening extending from the channel, wherein the sidewall defines a key adjacent to the top portion of the housing;

a septum disposed in the housing, the septum having a proximal portion, a medial portion having an external surface and a cross section less than a cross section of the top portion and less than the cross section of the channel and a distal portion;

a longitudinal slit extending through the septum from the proximal portion through medial portion and into the distal portion; and

a slot defined by the proximal portion engaged with the key.

30. The needleless luer access connector of claim 29 wherein the longitudinal slit is defined by a pair of transversely extending walls of the septum which are parallel to a transverse axis of the slit and wherein the slot is aligned with the transverse axis of the slit.

31. The needleless luer access connector of claim 30 including two slots about 180 degrees apart and aligned with the transverse axis of the slit.

32. The needleless luer access connector of claim 31 including two keys wherein one key is located in each of the two slots.

33. The needleless luer access connector of claim 30 the key and the slot have complementary cross sections.

34. The needleless luer access connector of claim 33 wherein the key and slot have complementary rectangular cross sections.

35. The needleless luer access connector of claim 34 wherein the key and slot have complementary triangular cross sections.

36. The needleless luer access connector of claim 35 wherein the key and slot have complementary polygonal cross sections.

37. A needleless luer access connector, comprising:

a housing having a top portion defining an inlet opening, a channel defined by at least one sidewall extending from the inlet opening and having a cross section, and a bottom portion defining an outlet opening extending from the channel wherein at least a portion of the cross section defines a pair of shoulders about 180 degrees apart;

a septum disposed in the housing, the septum having a proximal portion, a medial portion having an external surface and a cross section less than a cross section of the top portion and less than the cross section of the channel and a distal portion wherein the medial portion egages the shoulders; and

a longitudinal slit extending through the septum from the proximal portion through the medial portion and into the distal portion.

38. The needleless luer access connector of claim 37 wherein the longitudinal slit is defined by a pair of transversely extending walls of the septum which are parallel to a transverse axis of the slit and wherein the shoulders are substantially aligned with the transverse axis of the slit.

39. A needleless luer access connector, comprising:

a housing having a top portion defining an inlet opening, a channel defined by at least one sidewall extending from the inlet opening and having a cross section, and a bottom portion defining an outlet opening extending from the channel;

a septum disposed in the housing, the septum having a proximal portion, a medial portion having an external surface and a cross section less than a cross section of the top portion and less than the cross section of the channel and a distal portion defining a substantially circular cross section in its unstressed condition;

a longitudinal slit extending through the septum from the proximal portion through the medial portion and into the distal portion; and

wherein the channel has a substantially elliptical cross section having a major axis and a minor axis along at least a distal portion thereof and the distal portion of the septum is located in and restrained by the distal portion of the channel such that the distal portion of the septum is biased into a substantially elliptical shape by the distal portion of the channel.

40. The needleless luer access connector of claim 39 wherein the longitudinal slit is defined by a pair of transversely extending walls of the septum which are parallel

to a transverse axis of the slit and wherein the transverse axis of the slit is substantially aligned with the major axis.

41. The needleless luer access device of claim 40 wherein at least the portion of the slit adjacent to the bottom portion of the septum is open in the unstressed condition.

42. A needleless luer access connector, comprising:

a housing having a top portion defining an inlet opening, a channel defined by at least one sidewall extending from the inlet opening and having a cross section, and a bottom portion defining an outlet opening extending from the channel;

a septum disposed in the housing, the septum having a proximal portion, a medial portion having an external surface and a cross section less than a cross section of the top portion and less than the cross section of the channel and a distal portion defining a substantially elliptical cross section with a major axis and a minor axis in its unstressed condition;

a longitudinal slit extending through the septum from the proximal portion through the medial portion and into the distal portion; and

wherein the channel has a substantially circular cross section along at least a distal portion thereof and the distal portion of the septum is located in and restrained by the distal portion of the channel such that the distal portion of the septum is biased into a substantially circular shape by the distal portion of the channel.

43. The needleless luer access connector of claim 42 wherein the longitudinal slit is defined by a pair of transversely extending walls of the septum which are parallel to a transverse axis of the slit and wherein the transverse axis of the slit is substantially aligned with the minor axis.

44. The needleless luer access device of claim 43 wherein at least the portion of the slit adjacent to the bottom portion of the septum is open in the unstressed condition.

45. A needleless luer access connector, comprising:

a housing having a top portion defining an inlet opening, a channel defined by at least one sidewall extending from the inlet opening and having a cross section, and a bottom portion having an upper surface defining an upper cavity and an outlet opening extending from the upper cavity such that the inlet opening and the outlet opening are in fluid flow communication;

a septum disposed in the housing, the septum having a proximal portion, a medial portion having an external surface and a cross section less than a cross section of the proximal portion and less than the cross section of the channel and a distal portion;

a longitudinal slit extending through the septum from the proximal portion through the medial portion and into the distal portion such that when a male luer taper is inserted into the slit, the distal portion is moved both laterally and distally into contact with the upper surface of the upper cavity.

46. A needleless luer access connector, comprising:

a housing having a top portion defining an inlet opening, a channel defined by at least one sidewall extending from the inlet opening and having a cross section, and a bottom portion having an outlet opening extending from the channel such that the inlet opening and the outlet opening are in fluid flow communication;

a septum disposed in the housing, the septum having a proximal portion, a medial portion having an external surface and a cross section less than a cross section of the proximal portion and less than the cross section of the channel and a distal portion having a peripheral surface constrained against movement by the housing;

a longitudinal slit extending through the septum from the proximal portion through the medial portion and into the distal portion such that when a male luer taper is inserted into the slit but does not extend completely through the slit, an interior portion of the distal portion of the septum adjacent to the slit is moved distally so as to open the slit adjacent to the distal portion of the septum.